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Kambara

Gaming Grounds

A long shallow ditch (*rara ni tchingga*), called Wainikeli, which the natives say was formerly used for the dart game (*tchingga*), was examined in east central Wangava. The site has been described on pages 78-79. 172

Canoe Builders' Pit

On the beach at Naimarai, reputed to be the site of a village located on the northeast coast of Kambara and formerly occupied by Tongan canoe builders, is a pit which informants say was used in building double canoes. The rough hull was drawn across the mouth of the pit so that the canoe builders could stand conveniently in the pit while building up and finishing the hull. This was probably used especially for the *tambetembete* type of Tongan double canoe with keel. 172 396

Fishponds

On Mothe fishponds bordered by walls of basaltic stones were seen. These have been described on pages 135-136. 172

Cannibal Earth Oven

The site of an earth oven which informants said was formerly used for steaming human bodies (*lovo ni mbakola*), was seen near Undu village. It consisted of a somewhat circular pit in the ground, larger than the usual pit used to steam food for a feast. [354] [266]

Shell Mounds

An extensive, low shell mound, formed of the shells of edible mollusks, was seen on the shore at Yawalevu, Fulanga. The edge of the mound was used for a sweet potato garden. By pushing aside the shells which covered the surface of the ground and scraping the earth below into a mound, a small circular clearing had been made for each sweet potato plant.

Potters' Clay Site

The natives of Kambara say that potters' clay was formerly obtained from Matanimoko at the foot of Ndelaioloi near Lomatchi. It was made into pots by the women of Levuka, Lakemba, when they visited the island on regular trading expeditions. The women of southern Lau were not potters but obtained their pots from the Levuka women, from Matuku, Kandavu, and Tailevu (24, pp. 111-112). [323] [438]

Stone Quarries

It is probable that sites of quarries, which formerly supplied basalt for the manufacture of stone implements used in southern Lau, occur on the volcanic islands but none was located. [324] [316]

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the colonies of Tongans which sprang up in Lau had a marked effect upon the Lauan culture and race.[2]

The use of hardwood and the high development of carpentry account for the large number and range in size of the cutting-implements found in southern Lau.

Blades of stone and shell are no longer used as cutting-implements in Lau. They have been replaced by metal tools, hafted according to the old patterns, but many old implements are found in archaeological sites. Some are used today by the natives for *ivi* (*Inocarpus edulis* Forst.) nut-crackers or earth oven-stones.

Most of the stone cutting-implements are carefully made of selected, fine-grained basalt. They have been either pecked or chipped into shape, and all surfaces have been ground, and occasionally polished. A few specimens are composed of resistant sandstone, which is almost quartzite. All basalt implements found on the limestone islands such as Fulanga, Ongea, Wangava, and Namuka, have been imported from volcanic islands, probably chiefly from Komo, Lakemba, and Kambara (composed of limestone with a volcanic outcrop).

Stone Adzes[3]

The stone adzes have been classified according to cross-section into four types:— circular, elliptical, trapezoidal, and rectangular.

Circular Type

Fusiform adzes with circular cross-section are grouped as the circular type. (See Pl. A, 1 and fig. 1). There are a large number of adzes of this type in the collection. They narrow toward the pole, which is slightly flattened, and toward the edge, which is slightly curved and narrow, except when the adze has been worn down by sharpening of both

[2] For further information concerning the Tongans in Lau see my "Kulturgeschichte der Lauinseln (Fidschi gruppe)," *Archiv für Anthropologie* vol. 76, 1937.

[3] The terminology used in this study follows Buck, Emory, Skinner, and Stokes, "Terminology for ground stone cutting-implements in Polynesia," *Journal of the Polynesian Society*, vol. 39, no. 2, 1930.

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the bevel and the front sides of the edge. It is then straight and wide. The unmodified bevel is narrow transversely. It is slightly convex longitudinally. The surfaces of adzes of this type are convex, and angular margins are absent. Specimens of the circular type have been pecked and ground, and some have been polished. The butt-surfaces of some adzes have been slightly reduced by pecking to give security to the haft, but not sufficiently to form a tang.

Variations. Adzes of the circular type vary greatly in size. A small adze (fig. 2) found with skeletal material in a cave on Ongea illustrates the small variety. An adze found in the same cave shows a clearly-developed shoulder (fig. 3). This is the only example of a definite shoulder in the collection.

Elliptical Type

Flat adzes with elliptical cross-section have been grouped as the elliptical type. (See Pl. A, 2 and fig. 4). They are the most numerous in the collection. Adzes of this type narrow markedly from the edge, which is wide and slightly curved, to the rounded or flattened pole. The surfaces are convex, the front surface being more curved than the back on most of the elliptical adzes. They are entirely ground and many are polished. Some have been resharpened by grinding on both sides of the bit. On one specimen the whole back surface of the butt and part of the front surface have been slightly reduced by pecking for greater security of the haft.

Variations. An adze found below the surface at the village site of Nggali, Mothe island (Pl. A, 3 and fig. 5) illustrates large, flat adzes of the elliptical type. Both back and front surfaces of this variety are flattened. It is intermediate between the elliptical and the rectangular types. A roughly finished adze from Mbutonikoro garden, Fulanga, (fig. 6) illustrates another variety of the elliptical type. This adze shows a tendency toward plane surfaces and angular margins. It is intermediate between the elliptical and the trapezoidal types. The back and side surfaces of the butt have been reduced by chipping to facilitate hafting.

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TRAPEZOIDAL TYPE

324 412 Long narrow adzes with symmetrical, trapezoidal cross-section form the trapezoidal type. (See Pl. A, 4 and fig. 7). This type has four definite surfaces which form angular margins. The front and back surfaces are roughly parallel, the back being wider than the front. On some adzes the back surface is slightly convex transversely. The front surface of this type narrows from edge to pole, thus it is triangular in form. The back surface is widest at the chin and narrows slightly towards the pole. The edge is sharp and straight. The bevel is slightly convex and forms a definite angle with the blade. Adzes of this type have been chipped and ground.

Variations. Adzes of the trapezoidal type vary in size. A small adze found at the mouth of a cave on Namuka measures 117 mm. long and 37 mm. at greatest width. An adze from Fulanga, with narrow, plane front surface, back deeply arched transversely, and flattened ovate cross-section, is a variation on the trapezoidal type, (See fig. 8). The exact form of this adze cannot be determined, because the front and bevel surfaces have been reground. The adze has been made roughly by the chipping-technique and the surfaces have been ground.

RECTANGULAR TYPE

Flat adzes with rectangular cross-section are classed as the rectangular type (See Pl. A, 5 and fig. 9). Front and back surfaces of these adzes are plane and of almost equal width, although the back is slightly wider. The side surfaces are slightly convex transversely. The edge is wide and straight. The bevel is plane with definite chin. The pole is flattened. Most adzes of this type are chipped, ground, and polished. One specimen shows evidence of pecking and subsequent grinding. It is unpolished.

Variations. An adze from Vatoa (Pl. A, 6 and fig. 10) illustrates the large thick variety of the rectangular type.

SHELL ADZES

321 412 There are several shell adzes in the collection. These adzes show a tendency toward angular margins and quadrangular form. One shell adze from Nasau village site,

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Namuka (Pl. A, 7 and fig. 11), resembles the rectangular type of stone adze, as does another shell adze found below the surface in Mbutonikoro garden, Fulanga (Pl. A, 8 and fig. 12). 321 412

Gouges

The collection contains two gouges. Both are fusiform with circular cross-section, similar in form and technique to adzes of the circular type. The bevel is narrow and concave transversely. The edge is curved. Both specimens are pecked and ground. The gouge illustrated in Plate A, 9 was found below the surface in Mbutonikoro garden, Fulanga. The other gouge was found on the surface at Velavela, Wangava. It is an unusally long and narrow implement. It measures 335 mm. long and 49 mm. at greatest width. It is composed of basalt and weighs 50 ozs. 324 412

Comparisons

The type of cutting-implements which have been described fall clearly into two groups; those with curved cross-section and convex surfaces and those with quadrangular cross-section and a tendency toward flat surfaces and angular margins. For the sake of classification I have called the first group Fijian and the second western-Polynesian. The Fijian group includes the circular and elliptical types, and the western-Polynesian includes the trapezoidal and rectangular types. About two-thirds of the 44 specimens from Lau which were examined fall into the Fijian group, while the remaining third may be classed as western-Polynesian. 171 324 412

Adzes similar to the circular and elliptical types are found in the Bishop Museum collection from Fiji proper and from the Marianas islands. Adzes of the rectangular type also occur in the Marianas collection.[4] Adzes of the elliptical type are common in Melanesia.

Adzes of the quadrangular or western-Polynesian type are found in the Bishop Museum collection from Tonga,

[4]See my "Archaeology of the Marianas islands," *Bishop Museum Bul.* 100, Honolulu, 1932, Plate 6 A (type 1, circular), 6 C (type 2, elliptical), 6 D (type 3, rectangular).

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Samoa,[5] Rotuma, Tokelau,[6] Futuna,[7] and Uvea,[8] but are absent in the small collection from Fiji proper.

Hence besides the specialization in carpentry, the position of the Lau islands on the border between Polynesia and Melanesia adds interest to a study of the cutting-implements. This marginal position is clearly reflected in the local types of adzes.

[5]See Peter Buck, "Samoan Material Culture," *Bishop Museum Bul.* 75, Honolulu, 1930, Plate 36 C (type 3, rectangular); Plate 37 B and figure 196 (type 6, triangular).

[6]Gordon Macgregor, "Ethnology of Tokelau," *Bishop Museum Bul.* 146, figure 24, 1937.

[7]Edwin G. Burrows, "Ethnology of Futuna," *Bishop Museum Bul.* 138, Plate 5, A and C, 1936.

[8]Edwin G. Burrows, "Ethnology of Uvea," *Bishop Museum Bul.* 145, figure 3, 1937.

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ILLUSTRATIONS

Plate A. Adzes from the Lau islands.

1. Adze (C7283) circular type, found in a cave with skeletal material, Ongea island; composed of basalt; blade ground, butt pecked; fusiform narrows toward flattened, pecked poll, and toward slightly curved, narrow edge: back view showing bevel. Weight 24 ozs. 324 412
2. Adze (C7462) elliptical type, found on the surface, Embalailai garden near Muanaira, Fulanga; composed of basalt, ground and polished; truncate triangular form: back view showing flattened surface with plane bevel. Weight 9 ozs.
3. Adze (C7443) elliptical type, flat, found 5 centimeters below the surface at Nggali village site, Mothe; composed of basalt, ground: back view showing flattened surface similar in form to front. Weight 26 ozs.
4. Adze (C7288) trapezoidal type, from Vatoa, composed of basalt, quadrilateral with well defined angles: a, front polished, slightly convex longitudinally, narrowing from edge to flattened poll; b, back chipped and polished, is flat and wider than front. Weight 7 ozs.
5. Adze (C7293) rectangular type from Ongea, composed of basalt, chipped, ground and polished: a, front slightly convex longitudinally, slightly narrower than back; b, back flat. Weight 6 ozs.
6. Adze (C7289) rectangular type large, thick, from Vatoa; composed of basalt, pecked and slightly ground: back view showing plane surface. Weight 81 ozs.
7. Adze (C7433) of shell, from Nasau village site, Namuka; composed of tridacna, ground: a, front and b, back convex transversely and longitudinally, with edges narrowing toward flattened poll. Weight 4 ozs. 321 412
8. Adze (C7456) of shell, found 18 centimeters below the surface in Mbutonikoro garden, Fulanga; composed of tridacna, ground: a, front less convex than b, back. Weigth 1 oz.
9. Gouge (C7454) resembling adzes of the circular type, found 18 centimeters below the surface at Mbutonikoro, Fulanga; composed of basalt pecked and ground, fusiform with convex surfaces, narrow edge, and flattened poll; back view showing concave bevel, length 140 millimetres; depth 34 millimetres; cross section circular. Weight 10 ozs. 324 412

Figures (one-third actual size) by Edward Y. Hosaka.

Fig. 1—Adze (C7283) circular type: a, front; b, back; c, side showing similarity of profiles; d, cross-section circular, flattening toward edge.

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PLATE A.

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Fig. 2—Adze (C7286) circular type, small: a, front, well ground and polished, pecked above edge and at poll, front edge ground from resharpening: b, back, ground and polished, flattened; c, side shows edge almost equibeveled from resharpening; d, cross-section subcircular.

Fig. 3—Adze (C7287) circular type: a, front slopes from shoulder to edge and to poll; b, back flattened; c, side showing definite shoulder and chin; d, cross-section subcircular.

Fig. 4—Adze (C7462) elliptical type, truncate triangular form: a, front convex transversely and longitudinally with wide curved edge; b, back flattened with plane bevel; c, side convex; d, cross-section roughly elliptical.

Fig. 5—Adze (C7443) elliptical type, flat: a, front; b, back flattened and similar in form; c, sides also flattened with tendency toward angular margins; d, cross-section elliptical with tendency toward rectangular form.

Fig. 6—Adze (C7478) elliptical type, large: a, front, surface ground, slightly convex transversely; b, back blade ground, butt reduced by chipping, surface flattened transversely; c, side surface chipped, reduced toward poll; d, cross-section irregularly elliptical showing slight tendency toward angular margins.

Fig. 7—Adze (C7288) trapezoidal type, quadrilateral with well defined angles: a, front polished, slightly convex longitudinally, narrowing from edge to flattened poll; b, back chipped and polished, is flat and wider than front; c, side chipped and polished with definite chin; d, section symmetrically trapezoidal with front and back surfaces roughly parallel.

Fig. 8—Adze (B7925) trapezoidal variation: a, front narrow plane surface which has been reground and polished; b, back convex transversely, polished; c, side showing definite chin and reground bevel; d, cross-section flattened ovate.

Fig. 9—Adze (C7293) rectangular type, a, front slightly convex longitudinally, slightly narrower than back; b, back flat; c, side flattened, definite chin; d, cross-section rectangular.

Fig. 10—Adze (C7289) rectangular type, large: a, front plane; b, back plane; c, sides slightly convex; b, cross-section subrectangular.

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Fig. 11—Adze (C7433) shell: a, front and b, back convex transversely and longitudinally, wide edge narrowing toward flattened poll; c, side showing thin profile; d, cross-section irregularly elliptical with tendency toward angular margins.

Fig. 12—Adze (C7456) shell: a, front less convex than b, back; c. sides; d, cross-section irregularly elliptical with tendency toward angular margins.

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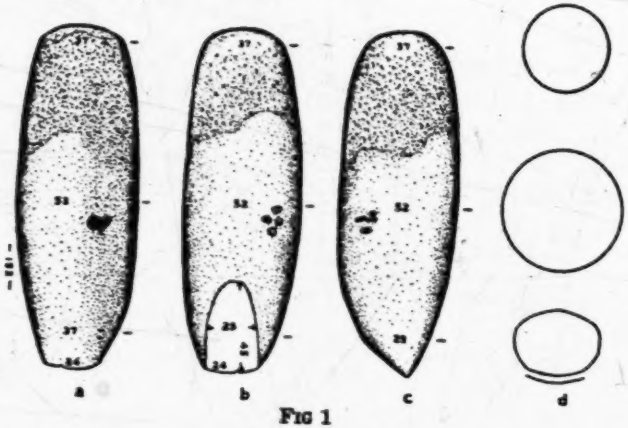

FIG 1

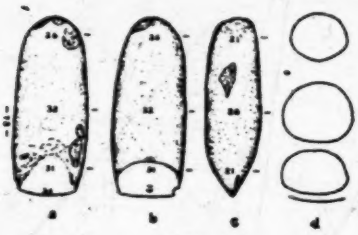

FIG 2

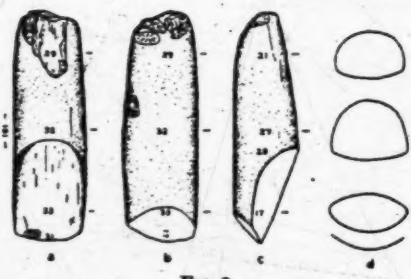

FIG 3

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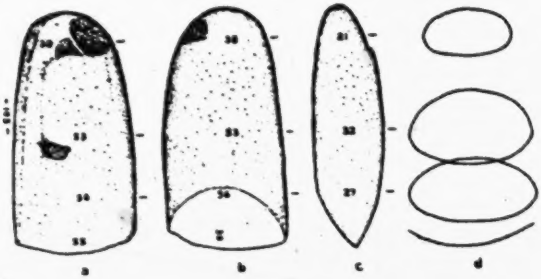

FIG 4

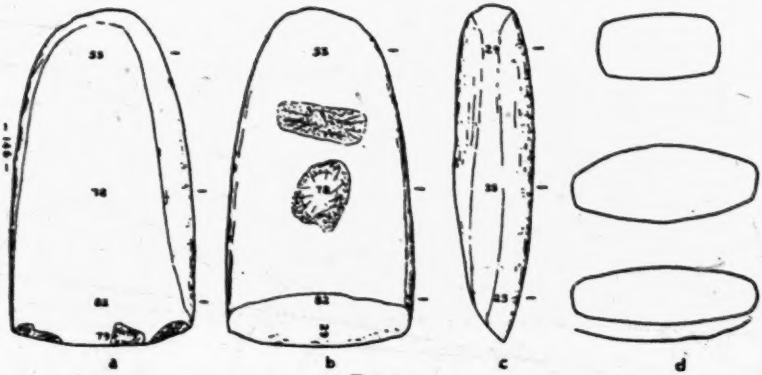

FIG 5

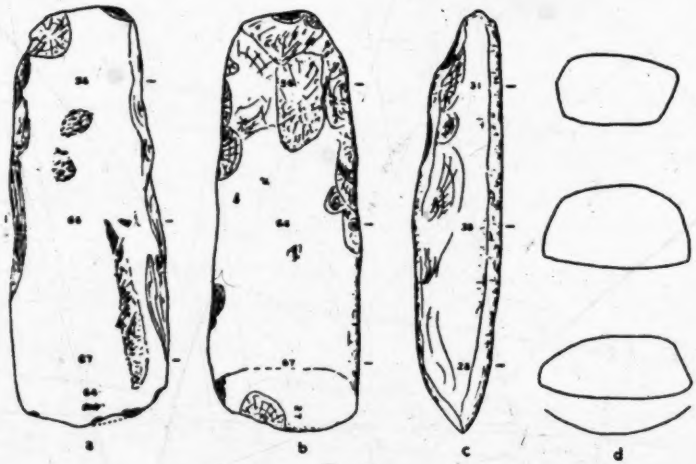

FIG 6

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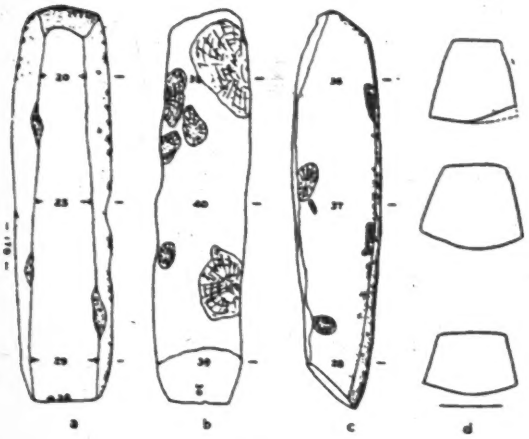

FIG 7

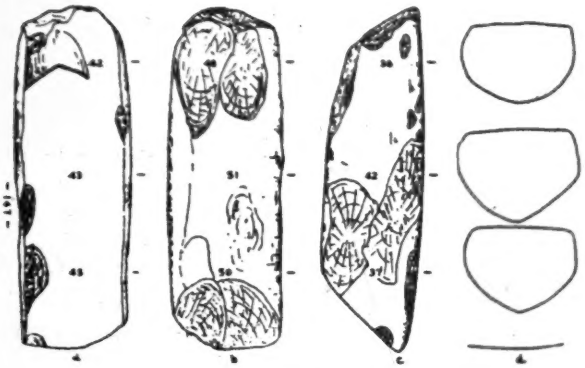

FIG 8

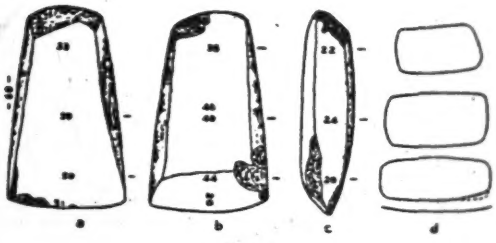

FIG 9

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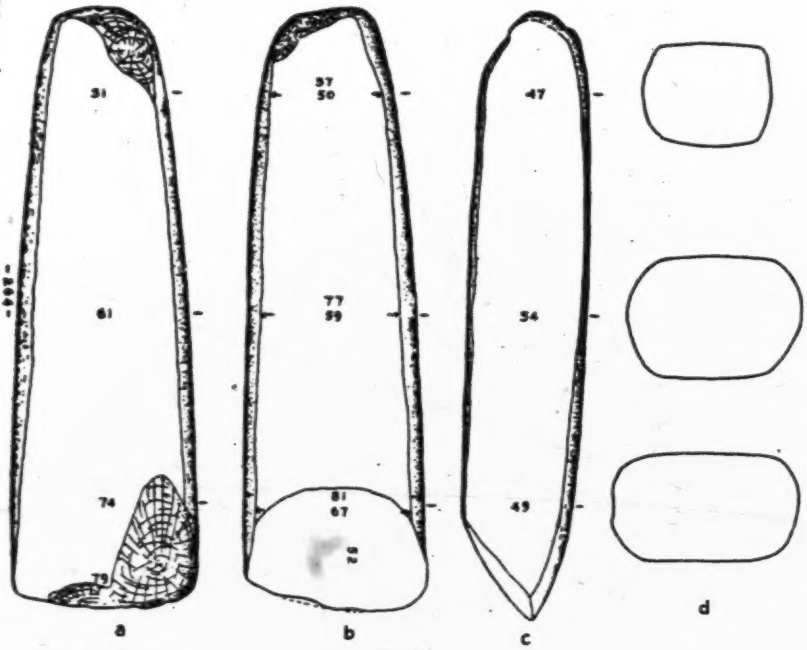

FIG 10

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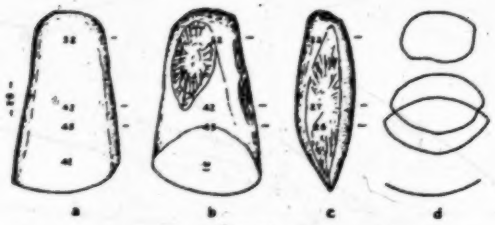

FIG 11

FIG 12

[pp 109-end, not processed]